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EXAMINER

JAGAN, MIRELLYS

ART UNIT PAPER NUMBER

2859

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/942,334

Applicant(s)

YERLIKAYA ET AL.

Examiner

Mirellys Jagan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 8/25/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 1/30/03 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 5, 6, 9, 11, 23-25, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication 2002/0181545 to Babkes.

Referring to claims 1-3, 6, 9, 23, 11, and 24, Babkes discloses an electronic thermometer comprising:

a removable module (100) made of a transparent housing and having:

a probe assembly (160) comprising a temperature probe (161) having a temperature sensor, an electrical cable (162), and a first connector component (120) having mating terminals for allowing electrical communication between a memory and a temperature calculating unit (200) that removably mates to the removable module,

means for storing the temperature sensitive probe (161) within the module, and

means for storing a supply of disposable probe covers (184),

wherein the temperature calculating unit (200) includes a header assembly (220) comprising terminals in electrical connection with a digital processing circuitry, i.e., a microprocessor, within the unit, wherein the header assembly is capable of mating with the first connector component (120) of the removable module, and the means for storing the temperature probe prevents storage of the probe while a probe cover is installed thereon.

The removable module stores and carries calibration information and probe-identifying information in an encoded manner so that the temperature-calculating unit can automatically read the encoded information from the removable module once the two modules are installed together. The memory must inherently be present in order to store and carry the encoded information, wherein the memory is capable of electrical communication with the temperature-calculating unit when the removable module is installed to the temperature-calculating unit. The probe-identifying information allows the temperature-sensing unit to differentiate between different removable modules. The temperature probe is connected to the memory since the memory communicates the temperature information from the probe, the calibration information, and the probe-identifying information to the temperature-calculating unit via the first connector component. The temperature-calculating unit is made with a watertight cover in order to allow the unit to be submersed in water for cleaning. The removable module may also be submersed in water for cleaning (see page 3, paragraphs 34 and 35, page 4, paragraphs 45 and 47).

Referring to claims 5 and 25, in using the electronic thermometer disclosed above by Babkes, the method steps of claims 5 and 25 will inherently be followed.

Referring to claim 28, Babkes discloses an electronic thermometer comprising:

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a removable module having memory storing calibration information and probe identifying information (a memory must inherently be present in order to store and carry the encoded information), wherein the removable module comprises a probe storage chamber and a probe cover supply storage chamber permanently attached to the probe storage chamber, and a temperature-calculating unit removably mating to the removable module.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Babkes in view of U.S. Patent 5,347,476 to McBean, Sr. [hereinafter McBean].

Babkes discloses an electronic thermometer having all of the limitations of claims 4 and 7, as stated above in paragraph 2, except for the calibration information including at least two calibration reference point parameters wherein each of the at least two parameters are taken at different temperatures, and the memory being an EEPROM.

McBean discloses an electronic thermometer comprising:

a removable module (20) having mating terminals (26, 32, 30, 28). The removable module has a temperature-sensing assembly formed by a temperature sensor (22) connected to a memory chip (EEPROM 24) that stores calibration information and module-specific algorithm

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parameters, and a cable assembly having a connecting portion with mating terminals for electrically connecting to a temperature calculating unit, and

a temperature calculating unit (36) having a header assembly with terminals (44, 46, 50, and 48) in electrical connection with a microprocessor system, wherein the header assembly removably mates with the terminals of the removable module.

The memory is connected to the connecting portion and is capable of electrical communication with the temperature calculating unit when the removable module is installed to the calculating unit, and the calibration information includes at least two calibration reference point parameters, wherein each of the parameters are taken at different temperatures. The memory chip stores a unique identification serial number to identify the type of module being used (see column 2, lines 37-68, column 3, lines 1-16, 20-38, and column 5, lines 8-10).

Referring to claim 4, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by Babkes by replacing the calibration information of Babkes with calibration information as taught by McBean, since these calibration information are alternate and equivalent means for calibrating an electronic thermometer in order to obtain more accurate temperature measurements.

Referring to claim 7, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by Babkes by replacing the memory with an EEPROM, as taught by McBean, since McBean teaches that an EEPROM is useful in an electronic thermometer for storing calibration information and module-specific algorithm parameters.

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5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Babkes in view of the prior art disclosed by Applicant on page 18, lines 24-27 of the specification [hereinafter Prior Art].

Babkes discloses an electronic thermometer having all of the limitations of claim 8, as stated above in paragraph 2, except for the memory being a 256 bit, 1-wire, parasite-power EEPROM.

The Prior Art discloses that a 256 bit, 1-wire, parasite-power EEPROM is a known memory chip that is commercially available from Dallas Semiconductor under the model number DS2430A.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by Babkes by replacing the memory with a 256 bit, 1-wire, parasite-power EEPROM, since the Prior Art discloses that a 256 bit, 1-wire, parasite-power EEPROM is known to be commercially available to one having ordinary skill in the art, and since these memory means are alternative and equivalent means for providing memory in the electronic thermometer.

6. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Babkes in view of U.S. Patent 5,173,840 to Kodai et al [hereinafter Kodai].

Babkes discloses an electronic thermometer having all of the limitations of claims 10 and 12, as stated above in paragraph 2, except for the memory being encapsulated, and the connections to the memory being protected from fluid incursion.

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Kodai discloses a circuit board having semiconductor elements thereon. The elements on the circuit board and its connections are encapsulated by an overcoat of a moisture-resistant material for protecting them from being damaged by a liquid.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed Babkes by encapsulating the memory and its connections with a protective overcoat, as disclosed by Kodai, in order to protect the memory and its connections from being damaged when the removable module is submersed in water during cleaning.

7. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Babkes.

Babkes discloses an electronic thermometer having all of the limitations of claim 13, as stated above in paragraph 2, except for the memory being disposed in the connector portion of the probe assembly cable.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed Babkes by placing the memory of the probe assembly in the connector component since this location is proximate to the header assembly of the temperature-measuring unit when they are connected together, which allows the memory to connect with the header assembly terminals using fewer or shorter connecting cables.

8. Claims 14, 16, 17, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Babkes in view of U.S. Patent Application Publication 2001/0004316 to Denzene et al [hereinafter Denzene].

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Babkes discloses an electronic thermometer having all of the limitations of claims 14, 16, 17, and 19, as stated above in paragraph 2, except for the terminals of the removable module and the temperature-calculating unit being fluid-resistant.

Denzene discloses an electrical device having a connector component that is fluid resistant. The area of the connector component that has connecting terminals is made resistant to fluid incursion in order to prevent the electrical components within the connector from being damaged by liquids (see figures 6 and 7).

Referring to claims 14 and 17, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by Babkes by making the mating terminals of the removable module and the temperature-calculating unit fluid-resistant, as disclosed by Denzene, in order to prevent the electrical components within the removable module and the temperature-calculating unit from being damaged when the removable module or the temperature-calculating unit is submersed in water during cleaning.

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Babkes and Denzene, as applied to claims 14, 16, 17, and 19 above, and further in view of Kodai.

Babkes and Denzene disclose an electronic thermometer having all of the limitations of claim 15, as stated above in paragraph 8, except for the memory being overmolded within the connector component.

Kodai discloses a circuit board having semiconductor elements thereon. The elements on the circuit board and its connections are encapsulated by an overcoat of a moisture-resistant material for protecting them from being damaged by a liquid.

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed Babkes and Denzene by placing the memory of the probe assembly in the connector component since this location is proximate to the header assembly of the temperature-measuring unit when they are connected together, which allows the memory to connect with the header assembly terminals using fewer or shorter connecting cables.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed Babkes and Denzene by overmolding the memory with a protective overcoat, as disclosed by Kodai, in order to protect the memory from being damaged when the removable module is submersed in water during cleaning.

10. Claim 18 is rejected under 35 U. S.C. 103(a) as being unpatentable over Babkes and Denzene, as applied to claims 14, 16, 17, and 19 above, and further in view of U.S. Patent 6,179,785 to Martinosky et al [hereinafter Martinosky].

Babkes and Denzene disclose an electronic thermometer having all of the limitations of claim 18, as stated above in paragraph 8, except for the temperature sensor being a thermistor and the calibration information including resistance values of the thermistor that correspond to at least two different reference temperatures.

Martinovsky discloses an electronic thermometer having a probe assembly comprising a probe, and a temperature-calculating unit. The probe utilizes a thermistor as the temperature sensor. The calculating unit has calibration information that includes at least two calibration

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resistance values of the thermistor, wherein each of the values are taken at different temperatures.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by Babkes and Denzene by using a thermistor as the temperature sensor in the probe, since Martinosky teaches that a thermistor is useful for measuring temperatures when using a probe. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by Babkes and Denzene by replacing the calibration information with the resistance calibration information disclosed by Martinosky, since Martinosky teaches that the resistance calibration information is useful for calibrating an electronic thermometer that uses a thermistor as the temperature sensor.

11. Claims 20 and 21 are rejected under 35 U. S.C. 103(a) as being unpatentable over Babkes and Denzene, as applied to claims 14, 16, 17, and 19 above, and further in view of McBean.

Babkes and Denzene disclose an electronic thermometer having all of the limitations of claims 20 and 21, as stated above in paragraph 8, except for the probe-identifying information being a unique identification number associated with the temperature probe, and the number being a pre-programmed and validated EEPROM registration number.

McBean discloses an electronic thermometer comprising a removable module (20) having a temperature-sensing assembly formed by a temperature sensor (22) connected to a memory chip (EEPROM 24) that stores calibration information and module-specific algorithm parameters, and a cable assembly having a connecting portion with mating terminals for

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electrically connecting to a temperature calculating unit having a header assembly with terminals (44, 46, 50, and 48) in electrical connection with a microprocessor system, wherein the header assembly removably mates with the terminals of the removable module. The memory is connected to the connecting portion and is capable of electrical communication with the temperature-calculating unit when the removable module is installed to the calculating unit. The memory chip stores a unique identification serial number to identify the type of module being used (see column 2, lines 37-68, column 3, lines 1-16, 20-38, and column 5, lines 8-10).

Referring to claim 20, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by Babkes and Denzene by using a unique identification serial number, as taught by McBean, in order to identify the type of module being used and prevent contamination between modules.

Referring to claim 21, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by Babkes, Denzene, and McBean by using a pre-programmed and validated EEPROM registration number as the unique identification serial number, since the use of this particular type of identification serial number claimed by applicant, absent ant criticality, is considered to be nothing more than a choice of engineering skill, choice, or design, because the use of the particular identification serial number claimed by applicant considered to be the use of numerous and known alternate types of identification serial number that a person having ordinary skill in the art at the time the invention was made would have been able to provide using routine experimentation in order to identify the type of module being used and prevent contamination between modules as already suggested by Babkes, Denzene, and McBean.

12. Claims 22, 26, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Babkes in view of Denzene, McBean, and Martinosky.

Babkes discloses an electronic thermometer comprising:

a removable module (100) made of a transparent housing and having:

a probe assembly (160) comprising a temperature probe (161) having a temperature sensor, an electrical cable (162), and a first connector component (120) having mating terminals for allowing electrical communication between a memory and a temperature calculating unit (200) that removably mates to the removable module,

means for storing the temperature sensitive probe (161) within the module, and

means for storing a supply of disposable probe covers (184),

wherein the temperature calculating unit (200) includes a header assembly (220) comprising terminals in electrical connection with a digital processing circuitry, i.e., a microprocessor, within the unit, wherein the header assembly is capable of mating with the first connector component (120) of the removable module, and the means for storing the temperature probe prevents storage of the probe while a probe cover is installed thereon.

The removable module stores and carries calibration information and probe-identifying information in an encoded manner so that the temperature-calculating unit can automatically read the encoded information from the removable module once the two modules are installed together. The memory must inherently be present in order to store and carry the encoded information, wherein the memory is capable of electrical communication with the temperature-calculating unit when the removable module is installed to the temperature-calculating unit. The

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probe-identifying information allows the temperature-sensing unit to differentiate between different removable modules. The temperature probe is connected to the memory since the memory communicates the temperature information from the probe, the calibration information, and the probe-identifying information to the temperature-calculating unit via the first connector component. The temperature-calculating unit is made with a watertight cover in order to allow the unit to be submersed in water for cleaning. The removable module may also be submersed in water for cleaning (see page 3, paragraphs 34 and 35, page 4, paragraphs 45 and 47).

Babkes does not disclose the terminals of the removable module and the header assembly of the temperature-calculating unit being fluid-resistant, the probe-identifying information being a unique identification number associated with the temperature probe, the temperature sensor being a thermistor, and the calibration information including resistance values of the thermistor which correspond to at least two different reference temperatures.

Denzene discloses an electrical device having a connector component that is fluid resistant. The area of the connector component that has connecting terminals is made resistant to fluid incursion in order to prevent the electrical components within the connector from being damaged by liquids (see figures 6 and 7).

McBean discloses an electronic thermometer comprising a removable module (20) having a temperature-sensing assembly formed by a temperature sensor (22) connected to a memory chip (EEPROM 24) that stores calibration information and module-specific algorithm parameters, and a cable assembly having a connecting portion with mating terminals for electrically connecting to a temperature-calculating unit having a header assembly with terminals (44, 46, 50, and 48) in electrical connection with a microprocessor system, wherein the header

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assembly removably mates with the terminals of the removable module. The memory is connected to the connecting portion and is capable of electrical communication with the temperature-calculating unit when the removable module is installed to the calculating unit. The memory chip stores a unique identification serial number to identify the type of module being used (see column 2, lines 37-68, column 3, lines 1-16, 20-38, and column 5, lines 8-10).

Martinosky discloses an electronic thermometer having a probe assembly comprising a probe, and a temperature-calculating unit. The probe utilizes a thermistor as the temperature sensor. The calculating unit has calibration information that includes at least two calibration resistance values of the thermistor, wherein each of the values are taken at different temperatures.

Referring to claim 22, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by Babkes by making the mating terminals of the removable module and the header assembly of the temperature-calculating unit fluid-resistant, as disclosed by Denzene, in order to prevent the electrical components within the removable module and the temperature-calculating unit from being damaged when the removable module or the temperature-calculating unit is submersed in water during cleaning.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by Babkes by using a unique identification serial number, as taught by McBean, in order to identify the type of module being used and prevent contamination between modules.

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In addition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by Babkes by using a thermistor as the temperature sensor in the probe, as disclosed by Martinosky, since Martinosky teaches that a thermistor is useful for measuring temperatures when using a probe. In addition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the thermometer disclosed by Babkes by replacing the calibration information with the resistance calibration information disclosed by Martinosky, since Martinosky teaches that the resistance calibration information is useful for calibrating an electronic thermometer that uses a thermistor as the temperature sensor.

13. Claims 1-7, 9, 11, 13, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over McBean in view of U.S. Patent 3,681,991 to Eberly, Jr. [hereinafter Eberly].

McBean discloses an electronic thermometer comprising:

a removable module (20) having mating terminals (26, 32, 30, 28). The removable module has a temperature-sensing assembly formed by a temperature sensor (22) connected to a memory chip (EEPROM 24) that stores calibration information and module-specific algorithm parameters, and a cable assembly having a connecting portion with mating terminals for electrically connecting to a temperature calculating unit, and

a temperature calculating unit (36) having a header assembly with terminals (44, 46, 50, and 48) in electrical connection with a microprocessor system, wherein the header assembly removably mates with the terminals of the removable module.

The memory is connected to the connecting portion and is capable of electrical communication with the temperature calculating unit when the removable module is installed to the calculating unit, and the calibration information includes at least two calibration reference point parameters wherein each of the parameters are taken at different temperatures. The memory chip stores a unique identification serial number to identify the type of module being used (see column 2, lines 37-68; column 3, lines 1-16, 20-38; column 5, lines 8-10; and column 9, line 49-column 10, line 14).

McBean does not disclose the temperature sensor of the removable module being in a probe connected to the removable module, wherein the removable module is capable of storing the temperature sensitive probe and a supply of disposable probe covers, the memory storing 'probe-identifying' information or 'probe-specific' algorithm parameters, and the temperature-sensing assembly being a 'probe assembly'.

Eberly discloses an electronic thermometer comprising a hand-held module (26) that includes a temperature sensor in a probe (34) that is connected to the module by a cable. The temperature sensor is placed within the probe in order to facilitate taking temperature measurements of a person. The module (26) stores the temperature sensitive probe in a chamber (32) in order to protect the probe when it is not being used. Eberly also teaches providing the module with a chamber (86 or 88) for housing a supply of disposable probe covers in order to have clean probe covers readily available to a person using the module when taking temperature measurements. The probe cover supply storage chamber is permanently attached to the probe storage chamber (see figure 1).

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Referring to claims 1, 2, 5, 6, and 28, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the removable module disclosed by McBean by placing the temperature sensor in a probe connected to the module (thereby forming a 'probe assembly'), as taught by Eberly, when utilizing the module to measure the temperature of human beings since Eberly discloses that using a probe is beneficial since it facilitates measuring the temperature of a living body.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the removable module disclosed by McBean by adding a chamber in the module for storing the probe and a chamber in the module for storing a supply of disposable probe covers, as taught by Eberly, in order to store the probe and protect it when it is not being used, and allow a person using the module to have clean probe covers readily available when using the module to take temperature measurements.

Further referring to claims 2 and 5, the memory chip in the removable module of McBean and Eberly stores 'probe-identifying' information since the removable module includes a probe and the stored information can identify the type of removable module being used (see the specification on page 21, lines 4-5, where it states that the information necessary for identifying the probe includes information related to the type of removable module being used).

Therefore, referring to claim 5, in utilizing the device disclosed by McBean and Eberly above to measure temperatures, the method steps of claim 5 would inherently be followed.

Referring to claim 9, the module-specific algorithm parameters in the memory chip of the thermometer of McBean and Eberly are 'probe-specific' algorithm parameters since the

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removable module includes a probe and the algorithm parameters are based on the type of removable module being used (see the specification on page 21, lines 4-5).

14. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over McBean and Eberly, as applied to claims 1-7, 9, 11, 13, and 28 above, and further in view of the Prior Art.

McBean and Eberly disclose an electronic thermometer having all of the limitations of claim 8, as stated above in paragraph 13, except for the EEPROM being a 256 bit, 1-wire, parasite-power EEPROM.

The Prior Art discloses that a 256 bit, 1-wire, parasite-power EEPROM is a known EEPROM that is commercially available from Dallas Semiconductor under the model number DS2430A.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the removable module of the thermometer disclosed by McBean and Eberly by replacing the EEPROM with the EEPROM from Dallas Semiconductor, since the Prior Art discloses that the EEPROM from Dallas Semiconductor is known to be commercially available to one having ordinary skill in the art, and since these EEPROMs are alternative and equivalent means for providing memory in the electronic thermometer.

15. Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over McBean and Eberly, as applied to claims 1-7, 9, 11, 13, and 28 above, and further in view of Kodai.

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McBean and Eberly disclose an electronic thermometer having all of the limitations of claims 10 and 12, as stated above in paragraph 13, except for the memory being encapsulated and the connections to the memory chip being protected from fluid incursion.

Kodai discloses a circuit board having semiconductor elements thereon. The elements on the circuit board and its connections are encapsulated by an overcoat of a moisture-resistant material for protecting them from being damaged by a liquid.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by McBean and Eberly by encapsulating the memory chip and its connections with a protective overcoat as disclosed by Kodai, since Kodai teaches that placing an overcoat on a semiconductor element is beneficial since it protects the element from being damaged by moisture.

16. Claims 14, 16, 17, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over McBean and Eberly, as applied to claims 1-7, 9, 11, 13, and 28 above, and further in view of Denzene.

McBean and Eberly disclose an electronic thermometer having all of the limitations of claims 14, 16, 17, and 19-21, as stated above in paragraph 13, except for the terminals of the removable module and the temperature-calculating unit being fluid-resistant, and the identification number being a pre-programmed and validated EEPROM registration number.

Denzene discloses an electrical device having a connector component that is fluid resistant. The area of the connector component that has connecting terminals is made resistant to

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fluid incursion in order to prevent the electrical components within the connector from being damaged by liquids (see figures 6 and 7).

Referring to claim 14, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the removable module and the temperature-calculating unit disclosed by McBean and Eberly by making the mating terminals fluid-resistant, as disclosed by Denzene, since Denzene teaches that making the mating terminals fluid-resistant is beneficial in order to prevent the electrical components within from being damaged by liquids.

Referring to claims 19 and 20, the module-specific algorithm parameters in the memory chip of the thermometer of McBean, Eberly, and Denzene are 'probe-identifying' parameters since the removable module includes a probe and the algorithm parameters are based on the type of removable module being used, which is determined by the unique identification serial number stored in the memory (see the specification on page 21, lines 4-5).

Referring to claim 21, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by McBean, Eberly, and Denzene by using a pre-programmed and validated EEPROM registration number as the unique identification serial number, since the use of this particular type of identification serial number claimed by applicant, absent any criticality, is considered to be nothing more than a choice of engineering skill, choice, or design, because the use of the particular identification serial number claimed by applicant considered to be the use of numerous and known alternate types of identification serial number that a person having ordinary skill in the art at the time the invention was made would have been able to provide using routine experimentation in order to identify the type of module being used as already suggested by McBean, Eberly, and Denzene.

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17. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over McBean, Eberly, and Denzene, as applied to claims 14, 16, 17, and 19-21 above, and further in view of Kodai

McBean, Eberly, and Denzene disclose an electronic thermometer having all of the limitations of claim 15, as stated above in paragraph 16, except for the memory being overmolded within the connector component.

Kodai discloses a circuit board having semiconductor elements thereon. The elements on the circuit board and its connections are encapsulated by an overcoat of a moisture-resistant material for protecting them from being damaged by a liquid.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by McBean, Eberly, and Denzene by overmolding the memory chip with a protective overcoat as disclosed by Kodai, since Kodai teaches that placing an overcoat on a semiconductor element is beneficial since it protects the element from being damaged by moisture.

18. Claim 18 is rejected under 35 U. S.C. 103(a) as being unpatentable over McBean, Eberly, and Denzene, as applied to claims 14, 16, 17, and 19-21 above, and further in view of Martinosky.

McBean, Eberly, and Denzene disclose an electronic thermometer having all of the limitations of claim 18, as stated above in paragraph 16, except for the sensor being a thermistor and the calibration parameters being resistance values.

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Martinosky discloses an electronic thermometer having a probe assembly comprising a probe, and a temperature-calculating unit. The probe utilizes a thermistor as the temperature sensor. The calculating unit has calibration information that includes at least two calibration resistance values of the thermistor, wherein each of the values are taken at different temperatures.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by McBean, Eberly, and Denzene by using a thermistor as the temperature sensor in the probe, since Martinosky teaches that a thermistor is useful for measuring temperatures when using a probe. Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by McBean, Eberly, Denzene, and Martinosky by using resistance values as the calibration parameters in the temperature-calculating unit, since Martinosky teaches that these values provide calibration information when using a thermistor as the temperature sensor in an electronic thermometer.

19. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over McBean in view of Eberly, Denzene, and Martinosky.

McBean discloses an electronic thermometer comprising:

a removable module (20) having mating terminals (26, 32, 30, 28). The removable module has a temperature-sensing assembly formed by a temperature sensor (22) connected to a memory chip (EEPROM 24) that stores calibration information and module specific algorithm

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parameters, and a cable assembly having a connecting portion with mating terminals for electrically connecting to a temperature calculating unit, and

a temperature calculating unit (36) having a header assembly with terminals (44, 46, 50, and 48) in electrical connection with a microprocessor system, wherein the header assembly removably mates with the terminals of the removable module.

The memory is connected to the connecting portion and is capable of electrical communication with the temperature calculating unit when the removable module is installed to the calculating unit, and the calibration information includes at least two calibration reference point parameters wherein each of the parameters are taken at different temperatures. The memory chip stores a unique identification serial number to identify the type of module being used (see column 2, lines 37-68; column 3, lines 1-16, 20-38; column 5, lines 8-10; and column 9, line 49-column 10, line 14).

McBean does not disclose the temperature sensor of the removable module being in a probe connected to the removable module, the removable module having storage for a supply of disposable probe covers and storage for the temperature probe, the removable module and the temperature calculating unit having fluid-resistant mating terminals, the sensor being a thermistor, and the calibration parameters being resistance values.

Eberly discloses an electronic thermometer comprising a hand-held module (26) that includes a temperature sensor in a probe (34) that is connected to the module by a cable. The temperature sensor is placed within the probe in order to facilitate taking temperature measurements of a person. The module (26) stores the temperature sensitive probe in a chamber (32) in order to protect the probe when it is not being used. Eberly also teaches providing the

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module with a chamber (86 or 88) for housing a supply of disposable probe covers in order to have clean probe covers readily available to a person using the module when taking temperature measurements (see figure 1).

Denzene discloses an electrical device having a connector component that is fluid resistant. The area of the connector component that has connecting terminals is made resistant to fluid incursion in order to prevent the electrical components within the connector from being damaged by liquids.

Martinosky discloses an electronic thermometer having a probe assembly comprising a probe, and a temperature-calculating unit. The probe utilizes a thermistor as the temperature sensor. The calculating unit has calibration information that includes at least two calibration resistance values of the thermistor, wherein each of the values are taken at different temperatures.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the removable module disclosed by McBean by placing the sensor in a probe connected to the module (thereby forming a 'probe assembly'), as taught by Eberly, when utilizing the module to measure the temperature of human beings since Eberly discloses that using a probe is beneficial when measuring the temperature of a living body.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the removable module disclosed by McBean by adding a chamber for storing the temperature sensitive probe in the module, and a chamber for storing a supply of disposable probe covers, as taught by Eberly, in order to protect the probe when it is

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not being used, and have clean probe covers readily available when using the module to take temperature measurements.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the removable module and the temperature-calculating unit disclosed by McBean and Eberly by making the mating terminals fluid-resistant, as disclosed by Denzene, since Denzene teaches that making the mating terminals fluid-resistant is beneficial in order to prevent the electrical components within from being damaged by liquids.

In addition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the thermometer disclosed by McBean and Eberly by using a thermistor as the temperature sensor in the probe and using resistance values as the calibration parameters in the temperature-calculating unit, as taught by Martinosky, since Martinosky teaches that a thermistor is useful for measuring temperatures when using a probe, and that resistance values provide calibration information when using a thermistor.

Lastly, the module-specific parameters and calibration data in the memory chip of the thermometer of McBean, Eberly, Denzene, and Martinosky are 'probe-identifying' parameters and probe calibration data, since the removable module includes a probe and the parameters and data are based on the type of removable module being used, which is determined by the unique identification serial number stored in the memory (see the specification on page 21, lines 4-5).

20. Claims 23 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over McBean and Eberly, as applied to claims 1-7, 9, 11, 13, and 28 above, and further in view of U.S. Patent 4,619,271 to Burger et al [hereinafter Burger].

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McBean and Eberly disclose an electronic thermometer having all of the limitations of claims 23 and 25, as stated above in paragraph 13, except for chamber for storing the probe being able to prevent storage of the probe while a cover is installed on the probe.

Burger discloses an electronic thermometer having a module with a probe storage chamber (12) that prevents storage of the probe (19) while a cover (19a) is installed on the probe in order to prevent contaminating the probe storage chamber (see figures 1 and 2, and column 2, lines 32-37).

Referring to claims 23 and 25, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the chamber for storing the probe in the removable module disclosed by McBean and Eberly by making the chamber such that it prevents storage of the probe while a cover is installed on the probe, as disclosed by Burger, in order to prevent contaminating the probe storage chamber.

Further referring to claim 25, in utilizing the device disclosed by McBean, Eberly, and Burger above to measure temperatures, the method steps of claim 25 would inherently be followed.

21. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over McBean and Eberly, as applied to claims 1-7, 9, 11, 13, and 28 above, and further in view of U.S. Patent 4,790,324 to O'Hara et al [hereinafter O'Hara].

McBean and Eberly disclose an electronic thermometer having all of the limitations of claim 23, as stated above in paragraph 13, except for the removable module having a partially transparent housing for viewing the probe covers.

O'Hara discloses a thermometer having a housing with a chamber for storing clean probe covers. O'Hara teaches providing a partially transparent housing in the vicinity of the probe cover chamber in order to quickly see how many covers remain in the chamber and determine if the chamber needs to be refilled with covers.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the removable module disclosed by McBean and Eberly by making providing a partially transparent housing, as taught by O'Hara, in order to see the covers and quickly determine if the chamber is empty and must be refilled.

22. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over McBean, Eberly, Denzene, and Martinosky, as applied to claim 22 above, and further in view of Burger.

McBean, Eberly, Denzene, and Martinosky disclose an electronic thermometer having all of the limitations of claim 26, as stated above in paragraph 19, except for chamber for storing the probe being able to prevent storage of the probe while a cover is installed on the probe.

Burger discloses an electronic thermometer having a module with a probe storage chamber (12) that prevents storage of the probe (19) while a cover (19a) is installed on the probe in order to prevent contaminating the probe storage chamber (see figures 1 and 2, and column 2, lines 32-37).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the chamber for storing the probe in the removable module disclosed by McBean, Eberly, Denzene, and Martinosky by making the chamber such that it

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prevents storage of the probe while a cover is installed on the probe, as disclosed by Burger, in order to prevent contaminating the probe storage chamber.

23. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over McBean, Eberly, Denzene, and Martinosky, as applied to claim 22 above, and further in view of O'Hara.

McBean, Eberly, Denzene, and Martinosky disclose an electronic thermometer having all of the limitations of claim 27, as stated above in paragraph 19, except for the removable module having a partially transparent housing for viewing the probe covers.

O'Hara discloses a thermometer having a housing with a chamber for storing clean probe covers. O'Hara teaches providing a partially transparent housing in the vicinity of the probe cover chamber in order to quickly see how many covers remain in the chamber and determine if the chamber needs to be refilled with covers.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the removable module disclosed by McBean, Eberly, Denzene, and Martinosky by making providing a partially transparent housing, as taught by O'Hara, in order to see the covers and quickly determine if the chamber is empty and must be refilled.

Response to Arguments

24. Applicant's arguments with respect to claims 1-28 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

25. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mirellys Jagan whose telephone number is 703-305-0930. The examiner can normally be reached on Monday-Thursday from 8AM to 4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 703-308-3875. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7725 for regular communications and 703-308-7725 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

mj
September 23, 2003



Diego Gutierrez
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